

CLASS 249, STATIC MOLDS**SECTION I - CLASS DEFINITION**

This is the residual class for a static implement, rather than a machine, having:

A. Structure intended for shaping fluent material only wherein the structure is so arranged as to define a space or cavity for retaining the fluent material and wherein the fluent material initially having no definite form conforms to the shape of the space or cavity solely by gravitational force on the fluent material and changes to a self-sustaining shape which shape is retained even after removal from the structure.

(1) Note. The space or cavity may be formed by a mold part cooperating with existing structure, e.g., building structure or earth.

B. Implements of the type set forth in subparagraph A above disclosed for use with, but not so claimed, means for applying an external force to fluent material only for imparting a shape thereto; i.e., a female portion of a male-female couple.

C. Implements disclosed for use with the structures set forth in subparagraphs A and B above for shaping the interior of a hollow casting, or which make a hole in or through a casting upon separation therefrom.

D. Implements of the type set forth in subparagraphs A and B above combined with that of the type set forth in subparagraph C above.

E. Structure including molding surfaces intended for shaping and bonding a fluent material with a preform to form a composite product that is separable from at least one molding surface.

F. Essential subcombinations of the structures set forth in subparagraphs A-D above which are separable from the product.

G. Adjuncts, per se, disclosed for use with the structure of subparagraphs A-F above which perform some function other than shaping and are not classifiable elsewhere.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS**A. MOLDS, PER SE****1. Mold Defined By Material Only****(a) Compositions**

Patents wherein all the claims are limited to a mold mentioned by name only without any inclusion of structure and defined only in terms of composition are classified as originals in appropriate composition classes, particularly those listed in References to Other Classes, below, referencing this section.

(b) Composite Layers

Patents wherein all the claims are limited to a mold mentioned by name only without any inclusion of structure and defined only in terms of the composition of the individual layers are classified in the appropriate composite layer class, particularly those listed in References to Other Classes, below, referencing this section.

2. Molds For Reshaping Preforms.

See References to Other Classes, below, referencing this section.

3. Miscellaneous Molds Including Dies And Matrices Of The Mold Type.

See References to Other Classes, below, referencing this section.

B. DYNAMIC MOLDING APPARATUS; STATIC MOLDS WITH DIVERSE ART DEVICE

Class 249 does not provide for dynamic molding apparatus and ordinarily does not include a static mold combined with a diverse art device. Such combined subject matter is provided for in Class 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, generally, or elsewhere as shown by the notes below. Certain specific subclasses in Class 249 do provide for a static mold combined with a perfecting device where the device is also static and integral with the mold or is essential thereto. The following list exemplifies types of subject matter provided for in Class 425 and elsewhere:

a. A mold combined with means for pressing molding material within the mold.

b. A mold combined with a cover having projections penetrating into the fluent hardenable material upon movement of the cover to its operative position.

c. A mold combined with means for moving the mold from one site to another.

d. A mold formed of separable and unconnected parts combined with means to individually handle each part for assembly.

e. A mold provided with a core or ejector combined with a machine-type means for actuating the core or ejector.

f. A mold combined with means to position the work relative to the mold and which means functions to release the work to permit it to fall into the mold.

g. A mold or core combined with means for creating differential pressure within the mold or core for dynamically shaping a molding material.

h. A mold combined with means for feeding material thereto, except that a mold with an integral funnel element or a mold so modified to provide structure especially designed for supporting a feeding means, is classified in this class (249, subclasses 105+).

i. A mold and means to vibrate the mold.

j. A mold combined with means to rotate the mold for centrifugal casting.

k. A segmented female mold or core, e.g., tunnel type, etc., and power means, i.e., motor, to move the segments to inoperative or operative position.

See References to Other Classes, below, referencing this section.

C. MOLD INCLUDING NONMOLDING MEANS

See References to Other Classes below for references to Molds Including Nonmolding Means.

D. CORES

See References to Other Classes below for references to Cores

E. MOLD ADJUNCTS

See References to Other Classes below for references to

(a) Mold Adjuncts, Clamps and Fasteners and (b) Mold Adjuncts, Supports.

MISCELLANEOUS SEARCH NOTES

See References to Other Classes below for references to the following:

Products or compositions disclosed for use with molds to control heating

Processes of Molding

Processes and Apparatus for Making Molds

Mold Like Apparatus Classified Elsewhere

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1, 213 for static structures (e.g., buildings).
- 1, 52, 55, 63, 65, 66, 79, 83, 102, 105, 112, 114, 142, 188, for plastic article or earthenware shaping or treating: apparatus.
- 9, for road structure, process, or apparatus.
- 10, 51, for hydraulic and earth engineering.
- 54, for dentistry.
- 69, for refrigeration.
- 89, for pipe joints or couplings; joints and connections.
- 114, for compositions: coating or plastic.
- 175, Note 2, for the difference between a core and plunger.
- 201, for metal founding.
- 213, for implements or apparatus for applying pushing or pulling force.

SECTION IV - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

- 12, Boot and Shoe Making, subclasses 128+ for "forms" for shaping shoes or boots. (Molds for Reshaping Preforms)
- 16, Miscellaneous Hardware, subclass 2 for bushings or lining thimbles which become a permanent part of the product; see search notes thereunder. (Cores)

- 24, Buckles, Buttons, Clasps, etc., appropriate subclasses for fasteners for connecting two parts of an article to each other. (Mold Adjuncts, Clamps and Fasteners)
- 29, Metal Working, subclasses 592+ for mechanical processes and subclasses 700+ for apparatus for assembling and disassembling molds or forms; see the "SEARCH CLASS" under subclass 400.1. (Processes and Apparatus for Making Molds)
- 44, Fuel and Related Compositions, subclasses 250+ for a fuel composition intended to generate heat without light. (Products or compositions disclosed for use with molds to control heating)
- 52, Static Structures (e.g., Buildings), appropriate subclasses for molds for erecting building structure wherein the mold structure constitutes a part of the ultimate building structure. (Mold Including Nonmolding Means)
- 52, Static Structures (e.g., Buildings), appropriate subclasses, particularly subclass 577 for void formers which become a part of the product and see search notes thereunder. (Cores)
- 52, Static Structures (e.g., Buildings), appropriate subclasses, for building structure disclosed for receiving molding material. (Mold Like Apparatus Classified Elsewhere)
- 53, Package Making, subclass 122 for reshaping of the packaged material by molding. (Molds for Reshaping Preforms)
- 59, Chain, Staple, and Horseshoe Making, subclass 60 for horseshoe dies and tools. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 62, Refrigeration, subclasses 340+ for refrigerating means combined with means producing a shaped product. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 65, Glass Manufacturing, appropriate subclasses, particularly subclasses 207+ for gob charging means with mold, 302 for mold and means to rotate mold for centrifugal casting and 305+ for press molding machines. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 65, Glass Manufacturing, subclasses 286+ for glass preform reshaping means; see search notes under subclass 286. (Molds for Reshaping Preforms)
- 69, Leather Manufactures, subclass 8 for machines shaping leather articles by molding. (Molds for Reshaping Preforms)
- 72, Metal Deforming, subclasses 253.1+ for apparatus for die expressing metal in a plastic state. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 72, Metal Deforming, appropriate subclasses for a metal working apparatus for bending, forging or stamping, extruding, etc., of metal preforms; see especially subclasses 462+ for the tool (e.g., die, etc.), per se. (Molds for Reshaping Preforms)
- 72, Metal Deforming, subclasses 253.1+ for a metal deforming machine including means extruding through an orifice, subclasses 274+ for wire drawing apparatus and subclasses 462+ for a tool (e.g., a die, etc.), per se. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 99, Foods and Beverages: Apparatus, subclasses 426+ for molds combined with cooking means; subclasses 450.1+ for apparatus for making a laminated edible product (e.g., sandwich, etc.). (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 100, Presses, appropriate subclasses for pressures that mold. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 106, Compositions: Coating or Plastic, subclasses 38.2+ for mold compositions; see search notes under subclass 38.2. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Compositions, above)
- 127, Sugar, Starch, and Carbohydrates, subclasses 18+ for molding apparatus with means effecting draining of the sugar. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 131, Tobacco, subclasses 70+ for tobacco molding apparatus. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 138, Pipes and Tubular Conduits, appropriate subclasses for pipes and tubular conduits, per se, even though disclosed for forming openings or passages in a molded product. (Cores)
- 141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclasses 333+ for funnel type filling means with a coacting receiver other than a mold receiver. (Mold Like Apparatus Classified Elsewhere)
- 148, Metal Treatment, subclasses 400+ for metallic stock materials; see search notes under sub-

- class 400 for line between Classes 75 and 148. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Compositions, above)
- 149, Explosive and Thermic Compositions or Charges, subclasses 37+ for "Thermite-" type compositions having utility for controlling the fluidity of the melt. (Products or compositions disclosed for use with molds to control heating)
- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 60+ for processes and subclasses 349+ for apparatus for manufacturing molds including a surface bonding operation; see the definitions of Class 156, for the line between the class (156) and Class 29. (Processes and Apparatus for Making Molds)
- 162, Paper Making and Fiber Liberation, subclass 288 for molding and burnishing means, and subclasses 382+ for foraminous molding apparatus for discrete articles, especially subclass 384 for apparatus for centrifugally forming pulp. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 164, Metal Founding, appropriate subclasses for dynamic metal casting or mold making apparatus. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 164, Metal Founding, subclasses 349+ for sand molds and sand and metal molds for metal casting. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 164, Metal Founding, subclasses 365+ and 369+ for sand cores. (Cores)
- 164, Metal Founding, subclasses 6+ for processes of forming a shaping surface and subclasses 159+ for corresponding apparatus. (Processes and Apparatus for Making Molds)
- 199, Type Casting, appropriate subclasses for type casting molding apparatus. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 199, Type Casting, subclasses 55+ and 91+ for molds for forming integral line and separate type, respectively. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 204, Chemistry: Electrical and Wave Energy, subclass 281 for electro-forming molds or strip plates. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, subclass 70 for electroforming die. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 206, Special Receptacle or Package, appropriate subclasses, for a container particularly configured to hold a specific article or material including an article (s) or material (s) put up as a mercantile unit. See subclasses 524.1+ for a chemical package. (Mold Like Apparatus Classified Elsewhere)
- 211, Supports: Racks, appropriate subclasses for supports designed to support molds. (Mold Adjuncts, Supports)
- 215, Bottles and Jars, appropriate subclasses, for bottle, jar, or jug-like receptacles. (Mold Like Apparatus Classified Elsewhere)
- 217, Wooden Receptacles, appropriate subclasses, for wood-like receptacles. (Mold Like Apparatus Classified Elsewhere)
- 220, Receptacles, appropriate subclasses, for rigid-like receptacles, e.g., metal, concrete, etc. (Mold Like Apparatus Classified Elsewhere)
- 223, Apparel Apparatus, subclasses 24+ for hat blocks and forms and subclasses 66+ for apparel forms. (Molds for Reshaping Pre-forms)
- 229, Envelopes, Wrappers, and Paperboard Boxes, appropriate subclasses, for paper-like receptacles. (Mold Like Apparatus Classified Elsewhere)
- 248, Supports, appropriate subclasses, particularly subclasses 351+ for mold supports. (Mold Adjuncts, Supports)
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses for implements for applying a push or a pull directly to a mold part to exert pressure thereon; see particularly subclasses 29+ and 104 for apparatus or implements which are adapted to be used with, but do not form a component or remain with the mold forms; see subclass 93 for pneumatic jacks for raising concrete forms. (Mold Adjuncts, Supports)
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, appropriate subclasses for processes of molding plastic material and pre-form shaping; see section II (i) of the class definition of Class 264, for an extended field of search for processes of molding. (Processes of Molding)
- 269, Work Holders, appropriate subclasses for "clamp" means, per se, to grasp or draw por-

- tions of a mold either together or unto a base or support; see the class definition of Class 269, I, third paragraph. (Mold Adjuncts, Clamps and Fasteners)
- 269, Work Holders, appropriate subclasses for devices intended to support a work piece during a work treating operation, except that where part of the work holder also functions to confine molding material, the device is classified in Class 249. (Mold Adjuncts, Supports)
- 404, Road Structure, Process, or Apparatus, subclass 48 for road joint means with transitory core, cap screed or installation means and subclasses 87+ for expansion joint forming apparatus which is permanently embedded in the product. (Mold Including Nonmolding Means)
- 404, Road Structure, Process, or Apparatus, appropriate subclasses for an in situ type mold for forming a roadway or road portion combined with other means to work or treat the earth or roadway. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above)
- 405, Hydraulic and Earth Engineering, appropriate subclasses for molding surfaces which ultimately became a part of the finished structure. (Mold Including Nonmolding Means)
- 405, Hydraulic and Earth Engineering, appropriate subclasses, particularly subclass 124, 126, 150.1+ for cores which become a part of the final product when forming culverts and tunnels. (Cores)
- 420, Alloys or Metallic Compositions, for Alloys (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Compositions, above)
- 423, Chemistry of Inorganic Compounds, appropriate subclasses for inorganic compounds, per se. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Compositions, above)
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 461 for means providing a shaping orifice disclosed for use in shaping nonmetals; see the search notes thereunder. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 383 for an apparatus for preform reshaping or resizing or for a vulcanizing means including a conforming preform support; see especially subclass 403 for a shaping surface, per se. (Molds for Reshaping Preforms)
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses for molding apparatus including a dynamic mold, or including a static mold and dynamic means, or combined with diverse working or treating means, or perfecting means other than static structure which, although performing a diverse function, utilizes a portion of the structure of a static mold, which last combination is in Class 249. (See Lines With Other Classes, Dynamic Molding Apparatus; Static Molds With Diverse Art Device, above. Especially see the statement in the introductory paragraph of that section.)
- 427, Coating Processes, subclasses 133+ for processes of coating a mold. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Composite Layers, above)
- 428, Stock Material or Miscellaneous Articles, subclass 411.1 and 615+ for nonmetallic and metallic stock material product in the form of a composite web or sheet characterized solely by the compositions of the layers, and which may be disclosed as a mold. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Composite Layers, above)
- 433, Dentistry, subclasses 34+ for molds used by dentists, e.g., impression trays and matrices for filling teeth. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, subclass 192 for bolt or rivet forming dies. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)
- 523, Synthetic Resins or Natural Rubbers, subclass 109 for a composition containing a synthetic resin or natural rubber wherein said composition is useful in taking impressions of the mouth or other body members or to processes of preparing said composition. (see Lines With Other Classes, Molds, per se, Mold Defined by Material Only, Compositions, above)
- D15, Machines Not Elsewhere Specified, subclasses 135+ for molding or casting equipment. (Miscellaneous Molds Including Dies And Matrices Of The Mold Type)

SECTION V - GLOSSARY

ADJUNCT

See the Class Definition, section G, above.

BARRIER

A construction forming an extended indefinite surface preventing or inhibiting the passage of persons or things, e.g., wall, ceiling, floor, etc.

CORE

See the Class Definition, C, and see References to the Current Class for a reference to the difference between a core and plunger.

DYNAMIC SUBJECT MATTER

Means for performing a function in which motion of the means or a part thereof is essential to accomplishment of the function.

FLUENT MATERIAL

Fluent material is (1) any material, which at the normal temperature range of an apparatus, lacks ability to retain a shape but instead readily conforms in shape to the configuration of a surface upon or within which it is placed or (2) any material which is handled as a mass of no predetermined shape and in the normal operation of a shaping device takes a form which in no way corresponds in general structure or dimensions to that of the original mass.

IMPLEMENT

A work containing agency which as disclosed, could be either (1) manipulated manually as a utensil, (2) a sub-combination of a machine or press couple, or (3) held in place by support means for direct manual or machine application of work thereto.

IN SITU

The utilization of a mold at the job site wherein upon removal of mold parts the product remains in its permanent location.

MACHINE

Usually a power driven (e.g., motor) organization including a mechanism, which contains within itself its own guide for operation which once commenced the operator lacks control thereover except for starting and stopping the same.

MODULE

A component of building construction, usually designated by terms as, brick, block, tile, sheet, etc., which with other such preformed shapes assembled in repetitious juxtaposition define a surface of construction, e.g., of a wall, ceiling or floor.

MOLD

See the Class Definition, section A and B.

MOLDING APPARATUS

A generic term which denotes anyone of the structures set forth in the Class Definition, sections A - F.

MOLD ELEMENT

See the Class Definition, section F.

MOLD WITH CORE

See the Class Definition, section D.

PANEL

A separate or distinct molding surface or a plurality of separate and distinct molding surfaces connected to form an integral molding surface.

PARTITION

Structure set forth under the Class Definition, section F, which divides a mold cavity into plural cavities.

- (1) Note. Structure set forth in this definition which forms a hole or recess in the product is considered a core.

PREFORM

Stock material that has been given a shape.

STATIC MOLD

See the Class Definition, subparagraphs A-C, inclusive.

SUSTAINER

A rigid member or construction having a limited closed periphery which is (1) greatly elongated relative to any lateral dimension (2) resists transverse loading and (3) supports or retains other components of a building construction; e.g., joist, beam or column.

SUBCLASSES

- 1** This subclass is indented under the class definition. Apparatus , sections A, B, D, and E intended for use with either existing structure or the earth for forming an on the job site construction engineering type product or a building structure.

- (1) Note. The earth or existing structure may constitute a confining part of the mold, e.g., a form panel together with the earth or other structure constituting the mold.
- (2) Note. The molds of this and indented subclasses are also referred to as forms.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 144+, for module forming molds.
 175+, for core, per se.
 187.1, for mold elements and form panels, per se.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 169.1+ for formed building structures, especially building structures having terranean features. The line between Classes 52 and 249 is as follows: Class 52 takes apparatus for casting settable hydraulic or ceramic materials in which the apparatus becomes a permanent part of the finished product. Class 249 takes molding apparatus which is readily removed from the finished product.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 59 for a dynamic molding apparatus utilizing a subterranean formation (e.g., ditch, natural cavity, etc.) as a shaping surface.

- 2** This subclass is indented under subclass 1. Apparatus for forming in situ a road, sidewalk or curb.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 189+, for form panel, per se.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 174+ for formed structures having traffic guiding feature.
- 404, Road Structure, Process, or Apparatus, appropriate subclasses, for the formed product.

- 3** This subclass is indented under subclass 2. Apparatus including a stake, or means for mounting a stake, functioning to retain the mold in position.

- 4** This subclass is indented under subclass 3. Apparatus having opposed, spaced structural walls defining an area for receiving moldable material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 3, for a similar type mold in which the earth functions as one wall of the mold.
- 33+, for similar structure for forming a planar wall.

- 5** This subclass is indented under subclass 4. Apparatus including a spacer to maintain the form walls spaced and which spacer has a positive interrelationship with at least one stake.

- 6** This subclass is indented under subclass 3. Apparatus comprising means for aligning adjacent forms end-to-end, the means being in addition to stake or stake mounting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 192+, for form panels with means to connect the same.

SEE OR SEARCH CLASS:

- 403, Joints and Connections, subclasses 13+ for connections between members in general provided with means for aligning the members prior to joining.

- 7** This subclass is indented under subclass 3. Apparatus wherein the stake mounting means includes a removable wedge engaging the stake.

- 8** This subclass is indented under subclass 2. Apparatus comprising three spaced substantially parallel molding surfaces for containing the molding material for forming an integral roadway curb and gutter.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

14, for similar structure for making steps.

SEE OR SEARCH CLASS:

404, Road Structure, Process, or Apparatus, subclasses 2+ and 7+ for the formed product.

- 9** This subclass is indented under subclass 2. Apparatus comprising joint forming means, or joint forming adjuncts, per se, for forming a joint in a road or sidewalk.

(1) Note. The means may be a division plate, or core or an adjunct, per se.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

98+, for a mold forming a product having a joint or coupling.

SEE OR SEARCH CLASS:

404, Road Structure, Process, or Apparatus, subclasses 87+ for apparatus to install or form joint in a road or pavement. The line between Classes 404 and 249 is as follows: Class 404 takes joint forming apparatus which is disclosed as (1) remaining embedded in the product (2) removed from the product when the product is in a fluent state and the space occupied by the apparatus close, up, and (3) the dual disclosure of either remaining embedded in, or removed from the product leaving a blank space. Class 249 takes a joint forming molding device or adjuncts which are disclosed as being removed from the product leaving a blank space in the product.

- 10** This subclass is indented under subclass 1. Apparatus for forming a structure in situ for controlling water in an open channel, reservoir or for controlling earth having a tendency to flow.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

1, for molds forming cisterns, water tanks, etc., casted in situ and 144+, wherein molds are provided for forming the structures, supra and similar types of a structure not disclosed as being casted in situ.
33+, for molds forming a wall of a building having opposed spaced panels.
51, for molds forming piles or post in situ.
189, for form panels, per se, or a form panel with a tie rod.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, appropriate subclasses for formed structures. Class 405 will take molding structures for forming hardenable fluent material wherein the molding structure becomes a permanent part of the formed structure.

- 11** This subclass is indented under subclass 10. Apparatus comprising means for forming a culvert, waterway, pipe or tunnel at the job site.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

175+, for a core, per se, for forming the structures, supra.

SEE OR SEARCH CLASS:

138, Pipes and Tubular Conduits, subclass 105 for a pipe or tubular conduit including a trench in which the pipe is received.
405, Hydraulic and Earth Engineering, appropriate subclasses for the formed product.

- 12** This subclass is indented under subclass 11. Apparatus for forming a culvert with angular divergent walls.

(1) Note. Included herein are molding devices for making a header (divergent walls) on a preformed culvert.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, subclass 125 for a culvert with header wall structure.

13 This subclass is indented under subclass 1. Apparatus for forming a building or a component part thereof.

- (1) Note. The building structure may be, but need not be, disclosed as being casted in situ.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

85, and 144+, for molds for forming modules.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), appropriate subclasses, for formed building structures.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 31+ for processes of forming structural installations in situ.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 59 for means continuously casting a building wall comprising a rotating, boom mounted material depositing and forming means; and subclasses 63+ for a building form with means for repositioning it for progressive molding.

14 This subclass is indented under subclass 13. Apparatus for forming stairs.

- (1) Note. Included herein are means to form a single step, and stairway sidewalls or supports.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

8, for curb making molding apparatus.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 182+ for the formed structures.

15 This subclass is indented under subclass 13. Apparatus for forming a facing on the product by either (1) molding the product and the facing simultaneously, or (2) molding a facing on an existing structure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 1, for molds for molding a protective facing on a pile.
16, for molds for forming barrier with simulated plural modules.
87, for molds for forming a lining on a machine type-bearing or friction surface.
90, for molds for uniting and placing a coating around a pipe or rod.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 34 for process of sequentially molding in situ different portions or layers on a unitary structural installation.

405, Hydraulic and Earth Engineering, subclass 216 for a method or apparatus for coating a marine pile or other structure.

16 This subclass is indented under subclass 13. Apparatus for forming simulated plural modules on a barrier.

- (1) Note. An example of the above is a wall having simulated brick or stone, etc., on the face thereof.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 311.1+ for a formed structure having an ornamental facing feature.

17 This subclass is indented under subclass 13. Apparatus for forming a chimney.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

144+, for container like mold for conduit-type product.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 218 for formed flue with gaseous fluid directing feature.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 32 for process of forming a vertical cylindrical structure.

- 454, Ventilation, subclasses 3+ for formed chimneys of general utility.
- 18** This subclass is indented under subclass 13. Apparatus for forming either a barrier or sustainer.
- (1) Note. Found herein are supports in combination with an organization of molding parts.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 720.1+ for a formed sustainer.
- 19** This subclass is indented under subclass 18. Apparatus having means to affix said apparatus to a building element preform. The affixing means need not be structure other than the molding apparatus itself.
- (1) Note. Mere reinforcement is not considered existing structure.
- (2) Note. The preform may remain part of the building structure, e.g., glass block.
- (3) Note. A patent is cross-referenced here wherein the preform is a utility fixture, e.g., drain pipe, or some other major permanent building structure, etc., even though the connecting feature with the molding apparatus is not claimed.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
15, for molding apparatus having means to connect to building structure for veneering the same.
34, for molding apparatus for forming a barrier on a footing.
- 20** This subclass is indented under subclass 19. Apparatus having means cooperating with a portion of the product previously formed for supporting the mold for sequentially molding in successive courses.
- (1) Note. A patent to be included in this and indented subclasses must disclose progressive molding and claim the features of the apparatus which make it capable of preforming the function.
- SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 33 for process of forming a structural installation in situ by sequentially molding different portions on a structure.
- 21** This subclass is indented under subclass 20. Apparatus wherein the mold has means to close at least one of its ends.
- 22** This subclass is indented under subclass 20. Apparatus having means progressively forming (1) a hollow wall having spaced vertical recesses, or (2) spaced individual parallel walls.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
36+, for molding apparatus to form either a hollow wall, or spaced parallel walls.
- 23** This subclass is indented under subclass 19. Apparatus having means for affixing the mold to a flange of a structural beam to support the mold.
- SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 35 for process of forming a structural installation in situ by uniting preform member with molding material.
- 24** This subclass is indented under subclass 23. Apparatus wherein either the mold, or the mold support is adjustable.
- 25** This subclass is indented under subclass 23. Apparatus wherein a latch or clamp means is movable into and from engagement with the flange of a structural beam for clamping or releasing a mold therewith.
- 26** This subclass is indented under subclass 18. Apparatus comprising means for forming either plural barriers, or plural sustainers or a barrier and a sustainer.
- (1) Note. Examples of: Plural barriers are plural floors or walls; plural sustainers - plural beams or columns; and barrier and

- sustainer - a floor and column or a wall and a beam.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:**
- 36, for molding apparatus for forming spaced parallel walls which function as a single wall having a hollow space.
- 48, for molding apparatus for forming a column, per se.
- 50, for molding apparatus for forming a beam, girder or joist, per se.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclasses 234+ for formed plural barriers or a barrier and a sustainer, subclasses 319+ for a formed barrier and sustainer and subclass 742.1+ for plural sustainers.
- 27** This subclass is indented under subclass 26. Apparatus comprising means for forming a monolithic building structure consisting of at least two diverse building structures.
- (1) Note. Examples of intersecting barriers or sustainers are wall and sill, wall and cornice, floor with joists, beam and column, etc.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclasses 261+ for plural intersecting barriers, and a barrier and sustainers, and subclasses 272+ for intersecting barrier construction.
- 28** This subclass is indented under subclass 26. Apparatus comprising means for forming a horizontally disposed confining wall combined with horizontal perpendicular projecting spaced beams, girders or joists.
- (1) Note. Patents claiming a plurality of spaced cores are classified in this class, subclass 176.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclasses 319+ for a cast-in-situ concrete barrier with laterally projecting rib type sustainer.
- 29** This subclass is indented under subclass 28. Apparatus comprising means for mechanically changing the dimensions of the joist mold to form a joist of a different size.
- 30** This subclass is indented under subclass 28. Apparatus comprising (1) a product reinforcing means, or (2) a reinforcing means and its support, or (3) a reinforcing support means, per se, combined with the mold.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclasses 677+ for embedded reinforcing spacer-positioners.
- 404, Road Structure, Process, or Apparatus, subclass 70 for a pavement combined with reinforced structure.
- 31** This subclass is indented under subclass 28. Apparatus wherein the mold is partially or totally composed of U-shaped or dome-shaped cores made in a single piece for forming a floor or ceiling and a joist.
- (1) Note. The cores must be a unitary structure before and after use.
- 32** This subclass is indented under subclass 31. Apparatus wherein the cores have at least two flanged abutting edges which form the bottom and side surfaces of the joist.
- 33** This subclass is indented under subclass 18. Apparatus comprising molding apparatus having opposed spaced panels defining a molding area for forming a vertical planar wall.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:**
- 2, for similar molding apparatus for forming a road or sidewalk.
- SEE OR SEARCH CLASS:**
- 52, Static Structures (e.g., Buildings), subclass 295 for a wall having an embedded projecting tie.
- 34** This subclass is indented under subclass 33. Apparatus comprising means for forming (1) a wall on a foundation, or (2) a wall and a foundation.

- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 274 for intersecting barriers and a foundation, subclasses 292+ for a formed foundation and especially subclasses 293.1+ for a formed foundation and wall.
- 35** This subclass is indented under subclass 33. Apparatus wherein the panel has means located thereon, or the panel is shaped in such a manner as to impart a permanent regular or irregular depression in either the exposed or interior major surface of the wall.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
39, for molding apparatus for forming a wall having an opening through its major face.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 233 and 311.1+ for formed log wall type construction and a formed structure having an ornamental feature.
- 36** This subclass is indented under subclass 33. Apparatus for forming (1) a hollow wall, or (2) spaced parallel walls.
- (1) Note. The spaced parallel walls function as a single hollow wall.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
22, for a mold for forming the same structure by a progressive molding operation.
26, for a mold for forming plural barriers.
- 37** This subclass is indented under subclass 36. Apparatus having means to form vertical shafts in a wall.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 302.1+, especially subclass 302.2 for formed structures having passages therein.
- 38** This subclass is indented under subclass 36. Apparatus for forming plural opposed walls having a tie means to support, reinforce or maintain the walls in a spaced relationship.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
85, for molding apparatus for embedding tie spacing means in a multipart module, e.g., building block.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 378+ and 383 for a formed parallel structure connected by a tie and subclasses 698+ for an anchor or tie, per se; see search notes.
- 39** This subclass is indented under subclass 33. Apparatus having means extending through or abutting against at least one panel, or the panel is so shaped to form an opening extending through the major face of the molded structure.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 204.1+ for a formed barrier having a portal opening.
- 40** This subclass is indented under subclass 33. Apparatus having means spacing opposed panels, said means extending between and through said panels.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
190, for a form panel with tie means.
213, for tie structure, per se.
- 41** This subclass is indented under subclass 40. Apparatus wherein the spacing means is provided with a fragile area to facilitate breaking to expedite disassembly of the panels.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
214, for tie rod structure, per se, having a weakened area.

- SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, subclasses 3+ for a pipe coupling including a frangible element, and see the search notes thereunder.
- 42** This subclass is indented under subclass 40. Apparatus wherein the spacing means comprise plural screw threaded fasteners, such having plural threads, with a threaded portion thereof located between the panels.
- (1) Note. An example of this structure is a “she-bolt”.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
47, for panels having plural adjoining sections and means to secure panels together.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 713 for an anchor or tie composed of separably connected sections.
- 43** This subclass is indented under subclass 40. Apparatus wherein the spacing means has a hollow part engaging the panels and another part passing through said hollow section.
- 44** This subclass is indented under subclass 40. Apparatus comprising plural abutting panel sections.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
190, for this structure wherein only one side of the opposed spaced panels is claimed.
192+, for form panel having means to connect plural panel sections.
- 45** This subclass is indented under subclass 44. Apparatus having means cooperating with the panel spacing means for fastening plural adjoining panel sections.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
191, for this structure wherein only one side of the opposed spaced panels is claimed.
- 46** This subclass is indented under subclass 40. Apparatus having wedge means coacting with the spacing means for holding the panels in operative relation.
- 47** This subclass is indented under subclass 33. Apparatus having means for fastening abutting portions of panels in an edgewise relation.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6, for panel structure having means to align panels end-to-end.
44, for opposed panels having adjoining sections and connected by a tie.
- 48** This subclass is indented under subclass 18. Apparatus for forming an elongated, vertical sustainer.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
143, for molding apparatus for forming fence post.
144, for molding apparatus for forming conduit-type structure.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 720+ for a formed elongated rigid shaft.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 32 for the process of forming a vertical-cylindrical structure.
- 49** This subclass is indented under subclass 48. Apparatus comprising parallel, contiguous molding surfaces overlapping each other and are slidably adjustable for increasing or decreasing the size of the product.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
155, for adjustable container type molds.
178+, for cores which are inherently adjustable.

- 50** This subclass is indented under subclass 18. Apparatus comprising means for forming an elongated rigid sustainer of great length compared to its width and depth.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 720+ for a formed elongated rigid shaft.
- 51** This subclass is indented under subclass 1. Apparatus for forming in situ an elongated rigid construction having a limited closed peripheral surface and which is greatly elongated relative to any internal dimension.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
1, for mold for molding a protective coating on a pile.
143, for molds for forming a fence post.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 155+ for a formed structure having a feature facilitating the insertion of said structure into the earth and subclasses 720.1+ for a formed elongated rigid shaft.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 32 for a process of forming vertical-cylindrical structure in situ.
405, Hydraulic and Earth Engineering, subclasses 233+ for methods and apparatus for casting a pile in situ; and subclass 257 for the pile, per se. Class 405 will take a mold structure specifically designed to be driven in the earth even though the mold structure is removed from the finished product, e.g., a mold for forming a pile having a case hardened pointed bottom for driving the same in the ground.
- 52** This subclass is indented under the class definition. Molding apparatus having a static means for scoring the product concurrent with the molding operation for facilitating the breaking or cutting the molded product.
- (1) Note. For a patent to be classified herein there must be a disclosure of the molding of a single product having score lines which are to be used to break or cut said product into a plurality of parts.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
119+, for molding apparatus for forming plural articles.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 98+ for a formed building structure with a frangible section or means.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 289+ for a preform severing means combined with shaping or reshaping apparatus for nonmetals, and subclass 385 for a surface deformation means for a nonmetal preform.
- 53** This subclass is indented under the class definition. Molding apparatus having an indicating means on the molding apparatus which facilitates the location of the parts of the molding apparatus or some condition in the molding apparatus during the molding operation.
- (1) Note. See class definition section III 2B for search notes for dynamic and combined features.
- SEE OR SEARCH CLASS:
33, Geometrical Instruments, subclass 451, 458, 463, 482, and 495 for rulers and 365+ for level or plumb.
116, Signals and Indicators, subclasses 200+ for indicators, per se.
- 54** This subclass is indented under the class definition. Molding apparatus having means for forming a substitute for a missing tooth or teeth.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
55, for molding apparatus having shape to simulate a product of nature.
61, for molding apparatus having a destructible feature.

- SEE OR SEARCH CLASS:
 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 16+ for processes of forming a dental prosthesis.
 433, Dentistry, subclasses 34+ for impressions trays and molds used by a dentist in a patient's mouth. Class 249 takes static dental molding apparatus of the type used by the dental technician.
- 55** This subclass is indented under the class definition. Molding apparatus wherein the molding apparatus has a shape which produces a facsimile of an article normally occurring in nature.
- (1) Note. For a patent to come here as an original, the surface which produces the product must be claimed.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 54, for molding apparatus for forming teeth and related structure.
- SEE OR SEARCH CLASS:
 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 222 for process with step of making a mold or mold shaping, per se, wherein a body area is used as an impression pattern.
 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 2 for dynamic molding apparatus utilizing an an-atomical body as a shaping surface.
- 56** This subclass is indented under the class definition. Molding apparatus for forming a wheel for a vehicle.
- (1) Note. Included herein is molding apparatus for forming component parts of a wheel.
- SEE OR SEARCH CLASS:
 152, Resilient Tires and Wheels, subclasses 1+ for spring wheels.
 295, Railway Wheels and Axles, appropriate subclasses, for railway wheels.
- 301, Land Vehicles: Wheels and Axles, appropriate subclasses, for land vehicle wheels.
- 57** This subclass is indented under the class definition. Molding apparatus for forming a ring type product.
- (1) Note. Examples of a ring type product are: a finger ring, a packing ring, chain links, etc.
- SEE OR SEARCH CLASS:
 29, Metal Working, subclass 8 for machines for forming rings.
 59, Chain, Staple, and Horseshoe Making, subclasses 1+ for chain making apparatus and subclasses 78+ for chains.
 63, Jewelry, subclasses 15+ for a formed finger ring.
- 58** This subclass is indented under the class definition. Molding apparatus for forming a container type product having a portion performing a function other than containing material.
- 59** This subclass is indented under the class definition. Molding apparatus for forming a spirally shaped product or a product with fastening threads.
- 60** This subclass is indented under the class definition. Molding apparatus for forming a grid or lattice type product.
- SEE OR SEARCH CLASS:
 29, Metal Working, subclass 2 for machine and apparatus for making metallic grids for electric batteries.
- 61** This subclass is indented under the class definition. Molding apparatus wherein either all or a portion of the molding apparatus is composed of material which is chemically or physically altered during the molding operation, or after the molding operation, for facilitating the separation of the product from said molding apparatus.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
 54, for dental type molding apparatus which is usually destructible.

SEE OR SEARCH CLASS:

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 221 for process having a step of mold making or mold shaping, per se, wherein the pattern or mold is destroyed.

62 This subclass is indented under subclass 61. Apparatus wherein a portion of or all of the molding apparatus is destroyed by either heating or fusing.

63 This subclass is indented under the class definition. Molding apparatus consisting of a mold and a core with means to remove the core from the mold to facilitate removal of the product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66.1, for molding apparatus with means to apply force to the product to remove or release product.

SEE OR SEARCH CLASS:

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 577 for a press molding machine including a female mold and means to insert or remove a core and subclass 468 for a molding machine subcombination comprising a core and dynamic positioning means therefore.

64 This subclass is indented under subclass 63. Apparatus wherein the mold is provided with more than one core and with means to remove the same.

65 This subclass is indented under the class definition. Molding apparatus wherein the molding apparatus is inflatable or has an inflatable element which is deflated to facilitate the removal of the molding apparatus or the element from the product, or the product from the apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66.1, for molding including means to apply force to remove or release product from the mold.

SEE OR SEARCH CLASS:

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 389+ for a preform reshaping apparatus having a fluid pressure actuated flexible diaphragm and subclass 417 for an expandable shaping member in a press forming machine.

66.1 INCLUDING MEANS TO APPLY FORCE TO REMOVE OR RELEASE PRODUCT FROM MOLD:

This subclass is indented under the class definition. Mold under section I-1 and I-2 of the ... having means functionally integral therewith for applying force to the product to release or expel it from said mold.

SEE OR SEARCH THIS CLASS, SUBCLASS:

63, for mold having core and means to remove core.
118, and 161+, for molding apparatus having means to move a mold part for exposing product for removal.
127, for flexible molding apparatus forming plural articles.
136, for a mold having a bottom movable through upstanding mold walls.
137, for a mold having means enabling rotation of said apparatus.
183, for a core made of resilient material capable of flexure to facilitate product removal.

SEE OR SEARCH CLASS:

65, Glass Manufacturing, subclass 260 for a glass working machine having means above the mold to take out or transfer the product.
162, Paper Making and Fiber Liberation, subclass 410 for pulp molding apparatus with article ejecting means.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 436+ for means to release or remove a product from a shaping surface in dynamic molding apparatus.

67 This subclass is indented under subclass 66.1. Apparatus wherein a pin or sleeve means contacts the product to remove or release said product from the mold.

- 68** This subclass is indented under subclass 67. Apparatus having means to actuate either the pin or sleeve means or both.
- 69** This subclass is indented under subclass 66.1. Apparatus comprising a shallow mold having grid-type partitions combined with mechanical means for releasing the grid or products.
- (1) Note. Included herein are means adapted to receive a mechanical force applying means.
- (2) Note. If the force applying means is a machine or a part of the refrigeration apparatus search Class 62, Refrigeration, appropriate subclasses for the combination.
- 70** This subclass is indented under subclass 69. Apparatus wherein the force applying means is mounted on or is integral with the tray-like mold.
- 71** This subclass is indented under subclass 69. Apparatus wherein the force applying means is mounted on or is integral with the grid structure.
- 72** This subclass is indented under subclass 71. Apparatus having a central elongated grid member composed of (1) plural superimposed parts, or (2) a member coextensive with the grid member; the structures of (1) and (2) having a differential force applied thereto by the force applying means.
- 73** This subclass is indented under subclass 71. Apparatus wherein plural levers are movably mounted on the grid structure.
- 74** This subclass is indented under subclass 66.1. Apparatus having means to move the mold bottom through upstanding mold walls.
- (1) Note. Included herein are means for moving mold while the bottom remains in place.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
136, for mold bottom adapted for movement through upstanding walls.
- 75** This subclass is indented under subclass 74. Apparatus wherein a bell-crank type lever arrangement applies force to move the mold bottom.
- 76** This subclass is indented under subclass 74. Apparatus wherein the means which moves the mold(s) bottom removes or releases plural products.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
119+, for container-type plural article forming mold, or molds with community feature.
- 77** This subclass is indented under subclass 66.1. Apparatus, having (a) means passing between the product and the molding surface to separate the product, or (b) means facilitating the use of an implement for the same purpose.
- (1) Note. Included herein is a stationary scraper wherein the molding surface moves.
- 78** This subclass is indented under the class definition. Molding apparatus having an electric heating element.
- SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 405+ for processes of article shaping by direct application of electrical or wave energy to work and especially subclasses 402+ for processes using direct application of electrical or wave energy to heat the mold.
- 79** This subclass is indented under the class definition. Molding apparatus wherein the molding apparatus has a hollow portion for confining a heat exchange medium within its surface.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
111, for molding apparatus having a chill or heat conductor for differential heating of a portion of the product.
133, for molding apparatus for forming plural articles constructed to include an ambient air space.

SEE OR SEARCH CLASS:

- 62, Refrigeration, subclass 356 for mold with means to absorb heat.
- 199, Type Casting, subclass 56 for type casting mold having a cooling device.
- 220, Receptacles, subclasses 592.01+ for a receptacle including means to maintain its contents above or below ambient temperature and subclasses 62.11+ for a receptacle having a wall consisting of plural distinct layers which may be spaced apart.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses selected in the basis of the type of molding apparatus for a combustion of heating or cooling means with dynamic molding apparatus; see subclass 384 for a preform reshaping or vulcanizing apparatus having both heating and cooling means and subclass 406 for a press shaping apparatus having both heating or cooling means.

- 80** This subclass is indented under subclass 79. Apparatus wherein the molding apparatus is (1) composed of a named material, or (2) defined by the characteristics of the material which perfects the heat exchange relation.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 114.1, and 134+, for molding apparatus of particular material.

- 81** This subclass is indented under subclass 79. Apparatus wherein the molding apparatus is composed of (1) plural cavities, or (2) plural molds with a community feature.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 119, for plural article forming molds.

- 82** This subclass is indented under the class definition. Molding apparatus wherein means is provided to adjust the volume of the apparatus during the molding operation to compensate for the expansion or contraction of either the product or the molding apparatus.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 106, for molding apparatus having a reservoir providing a compensating means for the contraction of the product.
- 134+, for molding apparatus wherein expansion or contraction is compensated for by the material from which the mold is constructed.

SEE OR SEARCH CLASS:

- 202, Distillation: Apparatus, subclass 268 for an element having an expansion provision.

- 83** This subclass is indented under the class definition. Molding apparatus under section I-5 of the ... for uniting a preform with a plastic material during the molding operation to form a composite product.

- (1) Note. To be included in this and indented subclasses the preform must be disclosed as a desired element of the product. Patents from subclasses 1+ are ordinarily not cross-referenced here.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 13+, for uniting a preform with moldable material for forming a building structure.
- 54, for uniting of a preform of a dental product to a plastic material.
- 56, for molding apparatus for uniting a preform with a plastic material to form to a vehicular wheel.

SEE OR SEARCH CLASS:

- 65, Glass Manufacturing, subclasses 47+ and 156 for process and apparatus of fusion bonding glass to a preform by a molding operation.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 229 for a process of pre-stressing a solid body and uniting it with a moldable material; subclasses 241+ for a process of forming a composite article and subclasses 259+ for process of shaping material and uniting it to a preform.

- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 110+ for composite article molding apparatus including means to feed or support a preform within a molding cavity.
- 84** This subclass is indented under subclass 83. Apparatus having a preform which functions as a partition between fluent hardenable materials.
- 85** This subclass is indented under subclass 83. Apparatus having a preform extending in plural mold cavities and supported by a partition.
- (1) Note. The article produced by this apparatus is considered a single block having a continuous air space.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
22, and 38, for structure forming spaced parallel walls.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 428 for formed modules connected by a separable tie.
- 86** This subclass is indented under subclass 83. Apparatus having means for uniting preformed rails (or parts thereof), of the railway type, to each other by use of a fluent hardenable material.
- SEE OR SEARCH CLASS:
104, Railways, appropriate subclasses, for rail structure.
238, Railways: Surface Track, subclass 14.15 for molded joint between rail-bond and the base or flange portion of a rail.
- 87** This subclass is indented under subclass 83. Apparatus having means for uniting a fluent hardenable material to a preformed machine wearing surface either to renew an old surface, or to form a new product.
- SEE OR SEARCH CLASS:
188, Brakes, subclasses 255+ for a cast-metal brake matrix.
- 88** This subclass is indented under subclass 87. Apparatus having means (1) to adjust the size or configuration of the product of (2) to center the preform relative to the molding area.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
155+, for container type molding device having adjustable feature.
- 89** This subclass is indented under subclass 83. Apparatus having means for joining the bell portion of a pipe to the spigot section of another pipe.
- (1) Note. Classes 285, Pipe Joints or Couplings and 403, Joints and Connections will take a mold or portion thereof disclosed as forming a joint and remaining a part of the joint. Class 249, Static Molds, will take a mold or portion thereof disclosed as forming a joint but is removed from the joint after use. In the case of dual disclosure, i.e., the mold may remain with or be removed from Class 285 is considered residual.
- SEE OR SEARCH CLASS:
277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 602+ for a static, contact seal intended for use on a pipe, conduit, or cable.
285, Pipe Joints or Couplings, subclasses 285.1+ for a formed molded joint.
403, Joints and Connections, subclasses 265+ for two members connected by a molded joint.
- 90** This subclass is indented under subclass 83. Apparatus wherein the molding apparatus completely surrounds and is supported by the outer periphery of a preform, e.g., pipe or rod to (1) coat the preform, or (2) unite two preforms in abutting relation.
- (1) Note. The preform must pass through the mold cavity.
- (2) Note. See search notes under subclass 89 for additional search.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
1, for molding apparatus for coating piles in situ.
- 91** This subclass is indented under subclass 83. Apparatus having means other than the mold (or core) surface for supporting the preform during the molding operation.
- (1) Note. A mere clamp, i.e., a device integral with or abutting a molding surfacing which aids in supporting the preform, is not considered to be “other” support means.
- (2) Note. A separate and distinct means employed to support a preform in a particular location within the mold cavity where said means becomes a part of the molded product is considered to be within the scope of the expression “other” and is classified herein, e.g., pins for mounting diamonds for forming a saw having diamond teeth.
- 92** This subclass is indented under subclass 91. Apparatus wherein an edible product is produced.
- 93** This subclass is indented under subclass 91. Apparatus having preform support means located outside of the mold cavity.
- 94** This subclass is indented under subclass 93. Apparatus wherein the preform is supported by a hole or recess in the mold wall in addition to the preform support means located outside of the mold cavity.
- 95** This subclass is indented under subclass 83. Apparatus wherein the preform is supported in uniting relationship with the molding material by the clamping relation of the parts of split mold.
- (1) Note. Both clamping elements of the mold must have a molding surface to be classified herein.
- 96** This subclass is indented under subclass 83. Apparatus wherein the preform is held in place or supported in the mold cavity by a hole or recess in the mold wall.
- 97** This subclass is indented under subclass 96. Apparatus wherein the hole which supports the preform extends through the mold wall.
- 98** This subclass is indented under the class definition. Molding apparatus having means to form a portion on the face of the product shaped to interconnect with a face portion of a conforming and mating shape in another like product to form a joint.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
9, for molding apparatus for forming an expansion joint in a road, pavement or curb.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 519+ for formed building structures having interfitted facings.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 108 for molding apparatus arranged for rod end to rod end splicing or joining.
- 99** This subclass is indented under subclass 98. Apparatus having means to form a product having a facing with (1) opposite surfaces of the edge portions adapted to contact a like product in overlapping relationship, (2) identical facings in an alternating reversing relationship, or (3) the facings having keyways.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 519+, 574, 575, and 578+ for modules made by molding apparatus of the above type.
- 100** This subclass is indented under subclass 99. Apparatus having means for forming joint connecting structure on a tubular product.

- SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, subclasses 328+ for pipe joints or couplings with particular interface.
- 101** This subclass is indented under subclass 98. Apparatus having means for forming a tongue on one edge of the product and a groove on the other edge of the product.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 539 for a formed building structure having a tongue and groove.
- 102** This subclass is indented under the class definition. Molding apparatus utilizing interchangeable parts to produce a different product or a different sized product, the number of parts in use being constant.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
155+, (especially 156) for molds constructed to be adjusted to form products of varying size and shape. Note - subclass 156 differs from this subclass in that in subclass 156 the size of the product is adjusted by adding or subtracting the number of mold surfaces, whereas in subclass 102 one part is substituted for another.
- SEE OR SEARCH CLASS:
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 182 for a molding machine combined with apparatus assembly or dismantling means or with an idle part.
- 103** This subclass is indented under subclass 102. Apparatus wherein the interchangeable part includes means to imprint information on the product.
- SEE OR SEARCH CLASS:
101, Printing, subclasses 401.1+ for formed printing blanks and processes for making the same.
199, Type Casting, appropriate subclasses, for molding apparatus of the machine type for forming type.
- 104** This subclass is indented under subclass 102. Apparatus wherein the interchangeable part produces a decorative effect on the product, the effect being either intaglio, cameo or a combination of both.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
16, and 140, for molds for forming a barrier having simulated plural modules, and a module having spaced decorative intaglio or cameo areas, respectively.
103, for a molding part having intelligence.
- 105** This subclass is indented under the class definition. Molding apparatus having filling means connected with the cavity of the molding apparatus which aids in the distribution of the moldable material (1) as it is fed into the mold cavity or, (2) provides a static head for feeding said material into the mold cavity to compensate for the volume change of the product upon cooling.
- (1) Note. A tapered flow-path member comprising a funnel or material guide is considered a filling means even though the taper be slight.
- (2) Note. The static filling means may be integral with the mold.
- SEE OR SEARCH CLASS:
141, Fluent Material Handling, With Receiver or Receiver Coating Means, subclasses 311+ for filling means having a coating receiver, other than a molding apparatus.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 447+ for a molding machine including a shaping surface and means feeding fluent stock thereto; see the collection of notes thereunder.
- 106** This subclass is indented under subclass 105. Apparatus wherein the filling means includes means defining a reservoir for molten material enabling the material to flow into the mold cavity during solidification of the material in said cavity, thereby compensating for the liquid-to-solid contraction of the product; said filling

- means also functioning as a gravitational separator by collecting the impurities in the product.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 79+, for molding apparatus of this type having heating or cooling means.
- 82, for molding apparatus having means other than a fluid head to compensate for the change in volume of either the product or the mold during the molding operation.
- 134, for molding apparatus wherein expansion or contraction is compensated for by the material from which said apparatus is constructed.
- 107** This subclass is indented under subclass 105. Apparatus having plural material feed lines leading from a single inlet to a single molding cavity.
- 108** This subclass is indented under subclass 105. Apparatus having a separable fluid supporting and guiding, gravity discharge means, which generally speaking has an inlet of greater extent than its outlet, e.g., a funnel is intended to receive an unconfined flow, and its outlet is to be inserted into or attached to the mold cavity inlet.
- SEE OR SEARCH CLASS:
- 141, Fluent Material Handling, With Receiver or Receiver Coating Means, subclass 331 for funnel type filling means coating with a receiver other than a molding apparatus.
- 109** This subclass is indented under subclass 105. Apparatus wherein the filling means includes an opening at or near the bottom of the molding cavity for the introduction of the moldable material.
- 110** This subclass is indented under subclass 105. Apparatus wherein the filling means comprises a single inlet communicating with plural molding cavities.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 119+, for container-type molds for forming plural articles.
- 111** This subclass is indented under the class definition. Molding apparatus wherein a disparate portion of the molding apparatus conducts heat away from, or blocks heat transfer from, a portion of the molten material to obtain differential cooling of the product.
- 112** This subclass is indented under the class definition. Molding apparatus wherein a removable or movable means is provided to cover at least a major portion of the molding surface of the apparatus.
- SEE OR SEARCH CLASS:
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus subclass 89 for a molding machine having a molding cavity and web or sheet type parting means therein.
- 113** This subclass is indented under subclass 112. Apparatus having a liner with plural foramina.
- (1) Note. In most instances the molding apparatus is also foraminous.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 141, for a container type foraminous molding device.
- SEE OR SEARCH CLASS:
- 162, Paper Making and Fiber Liberation, appropriate subclasses, for machine type molding apparatus of this type.
- 114.1 Including coating or adherent layer:**
This subclass is indented under the class definition. Molding apparatus wherein the molding apparatus is provided with a coating, or adherent layer on molding surface.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 80, for molding apparatus having plural layers combined with heating or cooling means.
- SEE OR SEARCH CLASS:
- 106, Compositions: Coating or Plastic, subclasses 38.2+ for molds and mold coatings defined in terms of composition only.

- 199, Type Casting, subclass 57 and 58 for type casting mold liners and modified liners.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 90 for a molding apparatus combined with means to apply a coating (e.g., parting, etc.), material to the material being worked or to a shaping means or tool.
- 427, Coating Processes, subclasses 133+ for processes of coating a mold.
- 428, Stock Material or Miscellaneous Articles, subclasses 411+ for a stock material in the form of a composite web or sheet characterized solely by the compositions of the layers and which may be disclosed as a mold.
- 115** This subclass is indented under subclass 114. Apparatus provided with a layer, of or lined with, an anti-stick material.
- SEE OR SEARCH CLASS:
- 65, Glass Manufacturing, subclass 26 for a process of working and treating glass combined with the step of applying a parting material or lubricant.
- 106, Compositions: Coating or Plastic, subclass 2 for a coating or plastic composition specially designed for use in the prevention of the adherence of a coating material to a surface.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 338 for process shaping utilizing a coating or lining.
- 116** This subclass is indented under subclass 114.1. Apparatus composed of plural contiguous metal layers.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 201, for a sink head or hot top, per se, having an internal diverse, perimetric layer.
- SEE OR SEARCH CLASS:
- 428, Stock Material or Miscellaneous Articles, subclasses 615+ for a mold defined solely by plural metal layers or parts.
- 117** This subclass is indented under the class definition. A mold under Section I-1, I-2, and I-4 of the
- SEE OR SEARCH CLASS:
- 199, Type Casting, subclasses 55+ and 91+ for molds for casting type.
- 118** This subclass is indented under subclass 117. Apparatus comprising plural molds with a common means to move a molding surface of each mold.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 63, for mold with means to remove core.
- 161+, for means to move a section of a container-type mold having plural sections.
- 119** This subclass is indented under subclass 117. Apparatus comprising (1) a single mold having plural product forming cavities, or (2) plural molds with a community feature.
- SEE OR SEARCH CLASS:
- 199, Type Casting, subclass 48 for a type casting multiple mold.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 297.1 for processes of forming plural articles.
- 120** This subclass is indented under subclass 119. Apparatus having a means that sustains the weight of the molding apparatus, or otherwise holds, or steadies it against the pull of gravity.
- (1) Note. A support which merely maintains mold parts, or elements, in operative relation is not subject matter for this subclass. The molding apparatus must be capable of a molding function independent of the support means.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 139, for a container type molding apparatus having a separate and distinct support.

- 121** This subclass is indented under subclass 119. Apparatus having means for closing a mold cavity.
- (1) Note. Patents are classified herein even if the disclosure states the cover acts as a press-member when the material rises and contacts it; see Lines With Other Classes, Dynamic Molding Apparatus, etc., b. of the class definition.
- SEE OR SEARCH CLASS:
220, Receptacles, subclasses 200+ for receptacle closures.
- 122** This subclass is indented under subclass 119. Apparatus having one or more cores.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
142, for container type molding apparatus having an inner removable core to form a recess or opening in the molded product.
- 123** This subclass is indented under subclass 122. Apparatus comprising plural cavities sharing a single core which makes openings in plural products.
- 124** This subclass is indented under subclass 122. Apparatus wherein the core is connected to a mold surface by a fastening means and is capable of being disconnected from the mold surface.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
142, for molds having a removable core for forming single product.
- 125** This subclass is indented under subclass 122. Apparatus wherein the core is permanently connected with a removal mold surface, or the core (or a major part thereof) is a removable partition.
- 126** This subclass is indented under subclass 119. Apparatus composed of a series of vertically stacked molds, or of compartments in a mold arranged one over the other.
- SEE OR SEARCH CLASS:
220, Receptacles, subclass 23.6 for metallic receptacles with stacking feature.
- 127** This subclass is indented under subclass 119. Apparatus wherein the mold, or a mold part is made of flexible material.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
66.1, for molding apparatus with means for removing product from mold.
183, for core made of resilient material capable of flexure to aid removal of core from product.
- 128** This subclass is indented under subclass 127. Apparatus wherein a flexible mold partition is removable.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
69+, for tray-like mold including grid having removal partition and means to apply force to removal or release product.
- 129** This subclass is indented under subclass 119. Apparatus wherein a one-piece partition divides a molding cavity into plural molding cavities.
- 130** This subclass is indented under subclass 129. Apparatus wherein the partition has means allowing the moldable material to flow from one cavity to another.
- 131** This subclass is indented under subclass 129. Apparatus wherein a partition which forms the molding cavities is readily removed without taking the molding apparatus entirely apart.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
121, for a removable partition integral with a cover.
- 132** This subclass is indented under subclass 129. Apparatus wherein at least two partitions intersect one another.

- 133** This subclass is indented under subclass 119. Apparatus constructed to allow a heat exchange between and around molding cavities.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 79+, for molding apparatus having means to confine the heat exchange medium.
111+, for a molding apparatus having a heat conductor or insulator.

- 134** This subclass is indented under subclass 117. Significant mold structure composed of a named material.

- (1) Note. To be classified herein as an original the material must be recited in the claim.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 80, for molding apparatus made of particular material having heating or cooling means.

SEE OR SEARCH CLASS:

- 106, Compositions: Coating or Plastic, subclasses 38.2+ for a mold claimed solely in terms of the composition and for mold coating compositions. See section Lines With Other Classes, Molds Per Se, Molds Defined by Material Only, under class definition of this class for an additional field of search.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 337 for process of shaping utilizing particular mold material.

- 135** This subclass is indented under subclass 134. Apparatus composed of a named metal.

- 136** This subclass is indented under subclass 117. Apparatus wherein the molding cavity comprises a bottom capable of being moved up through mold walls to the top of a mold to facilitate removal of the product.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 74+, for molding apparatus with positive product removal means including means to move mold bottom through upstanding mold walls.

SEE OR SEARCH CLASS:

- 199, Type Casting, subclass 92 for mold having one side movable to eject product.

- 137** This subclass is indented under subclass 117. Apparatus having means permitting rotary movement of the molding apparatus to facilitate product removal, charging of the mold, etc.

- (1) Note. Included herein is a mold, per se, disclosed for use in a centrifugal casting combination. See "Search Class" notes listed below for the combination of a mold with means to rotate the mold (or other perfecting features) for centrifugal casting.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 66.1, for mold having positive means to remove product from the mold.
139, for container-type mold having a separate and distinct support.

SEE OR SEARCH CLASS:

- 65, Glass Manufacturing, subclass 302 for a mold with means to rotate mold for the casting of glass centrifugally.
162, Paper Making and Fiber Liberation, subclass 384 for apparatus for forming pulp centrifugally.
164, Metal Founding, subclasses 114+ for centrifugal metal casting processes and subclasses 286+ for corresponding apparatus.
264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 311 for process of centrifugal casting; see the search notes thereunder.
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 425+ for utilization of female mold motion to distribute stock.

138 This subclass is indented under subclass 137. Apparatus for forming stereotype used in printing.

139 This subclass is indented under subclass 117. Apparatus wherein the mold is secured by gravity or a fastening means to a separate and distinct support means.

- (1) Note. A support which merely maintains the molding apparatus in operative relation is not subject matter for this subclass. The mold must be capable of carrying out the molding operation independent of the support.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 120, for plural article forming mold having a distinct support, or plural molds having a common support.
137, for a container-type molding apparatus having support means enabling rotation or inversion of the mold.

140 This subclass is indented under subclass 117. Apparatus for forming a module having spaced intaglio or cameo (or both) areas for decorative or functional purposes.

- (1) Note. The "major face" is that portion of the module that is capable of being viewed when the module is placed in its operative position, e.g., in a wall.

141 This subclass is indented under subclass 117. Apparatus having an auxiliary port(s) - (vent or drain), in addition to the material inlet, in communication with the mold cavity to allow transmission of fluid.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 113, for molding apparatus having an auxiliary port(s) and a removably foraminous liner.

142 This subclass is indented under subclass 117. Apparatus having a core located within the confines of mold cavity and capable of being separated therefrom.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124, for plural article forming molding apparatus having a core removably connected to a mold surface.

SEE OR SEARCH CLASS:

- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 414 for a press shaping couple in a molding machine having means to insert or remove a core.

143 This subclass is indented under subclass 142. Apparatus for forming fence posts having openings.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 720.1+ for a formed elongated rigid shaft.
256, Fences, appropriate subclasses for fence posts.

144 This subclass is indented under subclass 142. Apparatus comprising over-lapping inner and outer shells, the inner shell being a removable core for forming a recess in the product, the recess being in the nature of a through-passage for forming conduits, or hollow building structures of the module type, or a material retaining recess for forming receptacles.

- (1) Note. To constitute a removable element of the mold, the element must be detachable from the mold and shape only an internal surface of the finished product.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), appropriate subclasses for formed products of the type formed by the molds of this and indented subclasses.

145 This subclass is indented under subclass 144. Apparatus having plural removable cores which intersect to form intersecting passage in the product.

146 This subclass is indented under subclass 144. Apparatus wherein the outer shell or mold surface and the core are held in spaced relation by a nonmolding element which engages an inter-

- nal portion of the core and does not come in direct contact with the molding material.
- 147** This subclass is indented under subclass 146. Apparatus including a fastening means (e.g., a rod or bayonet type projection) which, while retaining the core, is inserted through a hole in the surface of an outer mold wall and is interlocked to the outer mold wall by a rotating or reciprocating motion.
- 148** This subclass is indented under subclass 146. Apparatus wherein a fastening means extends between the core and the outer mold wall and is located above the moldable material.
- 149** This subclass is indented under subclass 148. Apparatus wherein the core is suspended above the bottom of the mold cavity by the fastening means.
- 150** This subclass is indented under subclass 144. Apparatus wherein the expansive or contractive nature of the core retains it frictionally in engagement with the other mold part.
- SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, subclass 345 for a packed pipe joint providing frictional retention of a male element upon coupling; see the search notes thereunder.
- 151** This subclass is indented under subclass 144. Apparatus wherein the core can be slidably removed through a hole in the outer mold wall and is retained in its molding position by coacting with the hole.
- 152** This subclass is indented under subclass 144. Apparatus having means to expand or contract the outer mold shell and/or core for purposes of producing a different sized product, or for separating the mold parts to facilitate product removal.
- SEE OR SEARCH CLASS:
285, Pipe Joints or Couplings, subclass 338 for a packed pipe joint including a radially expansible packing carried by a male member; see the search notes thereunder.
- 153** This subclass is indented under subclass 152. Apparatus having means to expand or contract the outer mold shell and/or core by a bending or flexing of the face of the mold area of the same.
- 154** This subclass is indented under subclass 117. Apparatus having opposed, parallel-spaced panels of arcuate shape and end walls, for producing a product of the semi-cylindrical type.
- 155** This subclass is indented under subclass 117. Apparatus wherein the mold is constructed in such a manner that it may be utilized to form products of different dimensions or shapes.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
102+, for mold apparatus including alternatively used parts to form different products or products varying in size or shape.
- 156** This subclass is indented under subclass 155. Apparatus having a plurality of molding surfaces, which are either added to, or removed from the mold to vary the product shape or size.
- (1) Note. See note under subclass 102 for the line between subclass 102 and this subclass.
- 157** This subclass is indented under subclass 155. Apparatus having contiguous molding surfaces overlapping each other by a sliding motion to increase, or decrease the total molding surface.
- 158** This subclass is indented under subclass 155. Apparatus having a transverse mold surface movably mounted between mold walls.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
136, for mold having a bottom movable through upstanding mold walls.
- 159** This subclass is indented under subclass 155. Apparatus wherein the angle between two separate but adjacent mold surfaces may be varied.

- 160** This subclass is indented under subclass 117. Apparatus having plural molding sections capable of separation or relative movement.
- SEE OR SEARCH CLASS:
199, Type Casting, subclass 94 for type casting mold having two parts.
- 161** This subclass is indented under subclass 160. Apparatus having means to move mold sections to and from their operative relation.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
63+, for a mold and core with means to remove core.
74+, for a mold having means to move a mold bottom through upstanding mold walls to facilitate product removal.
118, for plural molds having common means to actuate a part of each mold.
162, for a mold having means for moving opposed sections simultaneously toward and away from each other.
- 162** This subclass is indented under subclass 161. Apparatus having means to move at least two walls simultaneously toward and away from each other.
- 163** This subclass is indented under subclass 160. Apparatus having means for securing the mold parts in an assembled relationship, and being separable from the mold parts.
- 164** This subclass is indented under subclass 163. Apparatus wherein the removable assembly securing means consist of an encircling band or clamp means surrounding the plural mold sections.
- 165** This subclass is indented under subclass 163. Apparatus wherein the removable assembly securing means consist of a wedge, pin or bolt type means either engaging apertures in the mold parts, or biasing one mold surface against another to maintain their operative relation by friction.
- 166** This subclass is indented under subclass 165. Apparatus wherein the removable assembly securing means is held in position against removal by a fastening (locking) means.
- 167** This subclass is indented under subclass 163. Apparatus wherein the removable assembly securing means consists of two or more permanently movable elements.
- 168** This subclass is indented under subclass 160. Apparatus wherein the mold sections (1) interlock with one another, or (2) each section carries a permanently associated fastening means which coacts to maintain the sections in assembled relationship.
- 169** This subclass is indented under subclass 168. Apparatus wherein the fastening means is movable relative to the mold section to which it is mounted.
- 170** This subclass is indented under subclass 160. Apparatus wherein the plural mold sections are hingedly connected for relative movement and permanent association.
- 171** This subclass is indented under subclass 170. Apparatus having at least two mold sections hingedly connected to a common section.
- 172** This subclass is indented under subclass 171. Apparatus wherein the common section constitutes the bottom section of the mold.
- 173** This subclass is indented under subclass 117. Apparatus comprising a longitudinally split, resilient cylinder having means to maintain the cylinder in a contracted molding position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
178+, for core composed of resilient material having means to expand or contract the core by bending or flexing.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., subclasses 19+ for hose-clamp type structures; see the search notes thereunder.

- 174** This subclass is indented under subclass 117. Apparatus comprising a one-piece mold for forming stock material into convenient commercial shape.
- SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, subclass 585 for a metal intermediate article tapered at both ends.
- 175** This subclass is indented under the class definition. Apparatus, section C.
- (1) Note. This and indented subclasses do not take means functioning to support a preform, for preform uniting even though said means inherently functions to obtain a shaped surface in the product, unless the patentee intends that the means be so used.
- (2) Note. A core is differentiated from a plunger in that it is static, whereas a plunger is dynamic during the molding operation; e.g., both the core and plunger are used to make a hollow casting, but movement of the plunger forms the hollow portion of the product, whereas the core remains static to form the hollow portion.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
63, for mold with core and means to remove core.
122+, for plural article forming mold(s) having core(s).
142+, for container type mold having a removable core.
216+, for tie rod having shaping means and its adjuncts.
- SEE OR SEARCH CLASS:
65, Glass Manufacturing, subclass 362 for a dynamic shaping plunger, per se.
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 414+ for tire body building drums, per se, disclosed for use in assembling and adhesively bonding of tire lamina.
164, Metal Founding, subclasses 365+ and 369+ for sand cores.
- 405, Hydraulic and Earth Engineering, appropriate subclasses for molding surfaces used as cores that become a permanent part of the product.
- 176** This subclass is indented under subclass 175. Apparatus comprising plural separate cores with some feature tying the cores into an operative relation.
- 177** This subclass is indented under subclass 175. Apparatus having means to attach the core to a support, the support may be a molding surface.
- 178** This subclass is indented under subclass 175. Apparatus having means, other than a mere clamping means, which is actuated to cause the molding surface of the core to expand or contract, to move the same to or from its operative position and facilitate its removal from the molded product.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
150, for molding apparatus with expandable or contractable core which is retained in position by its expansive or contractive force.
152+, for molding apparatus with core having means to expand or contract shell and/or core.
- 179** This subclass is indented under subclass 178. Apparatus wherein the actuation of the mechanical means distorts the molding face of the core.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
153, for molding apparatus with a core having means to bend or flex molding face to core.
- 180** This subclass is indented under subclass 178. Apparatus wherein the mechanical means moves two or more molding faces of the core simultaneously to and from their operative position.
- 181** This subclass is indented under subclass 180. Apparatus wherein the mechanical actuating means is a rotary movement mechanism.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
182, for movement of a single core section by a rotary movement means.
- 182** This subclass is indented under subclass 178. Apparatus wherein the core molding surface is expanded or contracted by a rotary moving means.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
181, for rotary moving means effecting simultaneous moving a plural core molding surfaces.
- 183** This subclass is indented under subclass 175. Apparatus wherein the core is composed in part or whole of elastic material whereby it may be easily removed from the product.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
65, for flexible cores which are inflatable.
127+, for plural article forming mold, or molds with community feature wherein the mold or mold part is composed of flexible material.
179+, for core with resilient or flexible molding surface combined with means to expand or contract the same.
- 184** This subclass is indented under subclass 175. Apparatus wherein the core is composed of plural sections providing molding faces.
- 185** This subclass is indented under subclass 184. Apparatus wherein the core sections are connected by a hinge.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
170+, for container type mold having plural mold sections connected by a hinge.
- 186** This subclass is indented under subclass 184. Apparatus wherein the plural core sections are held in their operative assembly by friction means and are collapsible upon removal of the friction means.
- 187.1 MOLD ELEMENT:**
This subclass is indented under the class definition. Apparatus under of the ... , sections A - F which imparts a desired shape to a product.
- SEE OR SEARCH CLASS:
164, Metal Founding, subclasses 352+ for a chill in a sand mold and subclasses 371+ for a chill disclosed for use in a sand mold.
- 188** This subclass is indented under subclass 187.1. Apparatus used for forming an in situ construction engineering or building type product.
- SEE OR SEARCH CLASS:
425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 470 for a casting surface of the plastering or gunite type.
- 189** This subclass is indented under subclass 188. Apparatus comprising a form panel or aligned plural panels connected by a fastening means.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33, for opposed spaced panels for forming a wall.
- 190** This subclass is indented under subclass 189. Apparatus having a tie rod, or means on, or in the panel for positioning the tie rod.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
40+, for opposed spaced panels and a tie rod extending between and through panel.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclass 699 for anchor or tie means which remain embedded in product and has a feature engaging a form.
- 191** This subclass is indented under subclass 190. Apparatus having means coacting with and mounting the tie rod to secure panel sections together.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
45, for molding device opposed spaced panels having this same feature.
- 192** This subclass is indented under subclass 189. Apparatus having means to connect the panel section in abutting relation.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
6, for road or sidewalk form combined with means to fix the form to the ground and having means to align the forms.
- 193** This subclass is indented under subclass 192. Apparatus wherein the means connecting the panel sections is disposed between the panel section and functions as a support and a molding surface.
- 194** This subclass is indented under subclass 192. Apparatus wherein the panels are connected in a manner other than a straight line.
- 195** This subclass is indented under subclass 192. Apparatus wherein a pivoted member located on one panel section engages a projection or recess in the other panel section.
- (1) Note. Examples of the member are: Latch, Clamp, etc.
- 196** This subclass is indented under subclass 192. Apparatus wherein the connecting means reciprocally engages apertures in each panel section.
- (1) Note. Examples of the connecting means are: wedge, pin, bolt, etc.
- 197** This subclass is indented under subclass 187.1. Apparatus comprising means providing a reservoir of material to be fed into the mold.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
106, for combination of a mold and a sink head or hot top.
- SEE OR SEARCH CLASS:
106, Compositions: Coating or Plastic, subclasses 38.2+ for sink head or hot tops defined in terms of composition only.
- 141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclass 392 for fluent material filling heads.
- 210, Liquid Purification or Separation, subclasses 513+ for gravitational separators.
- 198** This subclass is indented under subclass 197. Apparatus having means to adjust the position of the sink head or hot top relative to the mold.
- 199** This subclass is indented under subclass 197. Apparatus having means to reflect the heat of the melt back upon the surface of the melt.
- 200** This subclass is indented under subclass 197. Apparatus wherein the hot top is constructed with a chamber for confining a heat producing or heat insulating medium.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
79, for mold including means within mold surface to confine a heat exchange medium.
- 201** This subclass is indented under subclass 197. Apparatus wherein the sink head or hot top is composed of plural layers of different material, one of the layers providing an inner lining for the other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
61+, for molding apparatus having a layer which is destroyed.
- 112+, and 114.1, for molding apparatus having plural layers.
- 134+, for a mold composed of a named material.
- SEE OR SEARCH CLASS:
138, Pipes and Tubular Conduits, subclasses 140+ for pipe or tubular conduit composed of distinct layers.
- 164, Metal Founding, subclasses 359+ for a sand mold having means to compen-

- sate for shrinkage. Class 164 provides exothermic hot tops; see also subclasses 53+ for in situ reactive heating processes.
- 202** This subclass is indented under subclass 197. Apparatus comprising means used with a sink heat or hot top performing a function other than shaping.
- (1) Note. See the Class Definition, References to Other Classes, referencing Products or Compositions disclosed for Use with Molds to Control Heating, for heat producing products used with sink heads or hot tops.
- 203** This subclass is indented under subclass 187.1. Apparatus comprising a network of spaced intersecting partitions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 69+, for the combination of a grid and a tray-like mold with means for applying force to the grid or product.
- 127+, and 129+, for plural article forming mold having grid structure.
- 204** This subclass is indented under subclass 187.1. Apparatus comprising means to close the molding cavity or a portion thereof.
- SEE OR SEARCH CLASS:
- 220, Receptacles, subclasses 200+ for closures for metallic receptacles.
- 205** This subclass is indented under the class definition. Adjuncts, section G.
- SEE OR SEARCH CLASS:
- 164, Metal Founding, appropriate subclasses for sand mold adjuncts, particularly subclasses 394+ for mold jackets and slip boxes, 397+ for core centering or supporting means, 411 for reinforcement for mold material and 412 for miscellaneous mold adjuncts.
- 206** This subclass is indented under subclass 205. Apparatus comprising means to control the splash of the molding material in the mold cavity upon its being dispensed in the cavity.
- 207** This subclass is indented under subclass 205. Apparatus comprising nonmolding means for use with an in situ construction engineering or building type mold.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 9, for joint forming adjuncts, per se.
- 208** This subclass is indented under subclass 207. Apparatus comprising means to support a curb or step mold.
- 209** This subclass is indented under subclass 207. Apparatus comprising molding surface supports for a product having an arch.
- 210** This subclass is indented under subclass 207. Apparatus comprising means for use with a molding apparatus for forming either a barrier or sustainer, or a barrier with a sustainer.
- 211** This subclass is indented under subclass 210. Apparatus comprising means to attach the molding apparatus to the flange of a structural beam.
- 212** This subclass is indented under subclass 210. Apparatus comprising adjustable supports for dome-shaped cores.
- (1) Note. The dome-shaped cores usually form a floor or ceiling with joists.
- 213** This subclass is indented under subclass 207. Apparatus comprising a structural element for temporarily holding or supporting mold elements inoperative relation.
- (1) Note. Class 52 will take ties and anchors which remain embedded in the product and function to hold permanent building structures. Class 249 will take ties which remain embedded in or are removed from the product which function only to hold removable mold parts. In case of a dual disclosure, i.e., the tie functions to hold removable mold parts and is used to secure permanent building structure after the mold parts are removed. Class 52 is considered residual.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
33+, for opposed spaced panels connected by tie means.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 698+ for anchors or ties used in building structures.
254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses, particularly subclass 29, 104, and 199+ for implements or apparatus which are used to tension a tie rod or wire from which they are separated after the rod or wire is tensioned to the desired amount. Note. Class 254 will only take implements or apparatus which are adapted to tension an element (e.g., wire, rod) from which they are removed after the desired amount of tension is achieved. Class 249 and other appropriate classes (e.g., Class 24, Class 74) will take the combination of a rod or wire and a force multiplying component permanently attached to, or remaining with, the rod or wire when used.
411, Expanded, Threaded, Driven, Headed, Tool-Deformed, or Locked-Threaded Fastener, appropriate subclasses for general use fasteners which could be used as ties.
428, Stock Material or Miscellaneous Articles, subclasses 544+ for stock material which is all metal or has adjacent metal components.
- 214** This subclass is indented under subclass 213. Apparatus having a weakened area to facilitate its being broken.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
41, for opposed spaced panels supported by a tie having a weakened area.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 98+ for building structures with frangible section or means.
- 215** This subclass is indented under subclass 213. Apparatus comprising twisted or coil wire located within the molding material.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 712+ for sheet or wire ties.
- 216** This subclass is indented under subclass 213. Apparatus having means to maintain mold elements in a spaced relation.
- SEE OR SEARCH CLASS:
52, Static Structures (e.g., Buildings), subclasses 699+ for a tie having feature engaging form.
- 217** This subclass is indented under subclass 216. Apparatus wherein the spacing means which is removably mounted on the tie performs a molding function usually for facilitating its removal from the product.
- 218** This subclass is indented under subclass 216. Apparatus wherein the tie is made of sheet metal.
- 219.1** **Clamp or bracket, per se:**
This subclass is indented under subclass 207. Apparatus comprising clamp or bracket means for holding or supporting mold parts in an operative relationship.
- 219.2** **Waler type:**
This subclass is indented under subclass 219.1. Clamp or bracket means for holding or tying wales to concrete forms or to other wale elements.
- (1) Note. Wales are the horizontal or cross-beam components of the hardback framework that hold together panels comprising the concrete mold form. Often wales are depicted as 2 X 4's or wooden pieces attached to the panel and/or hardback framework of the concrete form.
- SEE OR SEARCH CLASS:
24, Buckles, Buttons, Clasps, etc., appropriate subclass for clamps.
248, Supports, appropriate subclass for supports.

END